PIKE TECHNOLOGIES
Spectroscopic Creativity

Installation and User Guide

CrushIR™

15 Ton Hydraulic Press

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Address Comments to:

PIKE Technologies, Inc.
6125 Cottonwood Drive
Madison, WI 53719

Phone	(608) 274-2721
Fax	(608) 274-0103
E-mail	info@piketech.com
Web Site	www.piketech.com

Jan. 1, 2014

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Introduction

The CrushIR™ is a 15 US ton (13.6 metric ton) digital hydraulic press ideal for making KBr transmission pellet samples such as KBr pellets and thin films with heated platens for FTIR analysis. With its digital pressure reading, the CrushIR™ provides excellent reproducibility and efficient operation. Its adjustable open port design allows for easy insertion and removal of the pellet press and heated platens, both available from PIKE Technologies.

The PIKE CrushIR includes a transparent protective shield making it safe for operation in a busy laboratory environment. Access for vacuum hose and other utilities is made through a port in the rear of the press. The adjustable die stop provides flexibility for die designs of short and longer dimensions yielding an open stand range from 2 to 4.5 inches (5 to 11.5 cm). The efficient sized ram stroke of 0.45 inches (12 mm) and adjustment screw speeds pellet making by minimizing the time required to achieve the desired force.

All mechanical components of the press are enclosed in a safety metal cabinet. The access area is protected by a high-impact polymer shield.

Figure 1. Front view of the CrushIR Digital Hydraulic Press

Unpacking Your Accessory

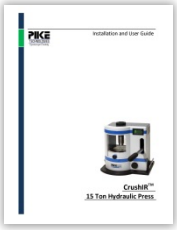
In order for you to quickly verify receipt of your accessory, we have included a packing list. Please inspect the contents of the shipping box carefully. Contact PIKE immediately if any discrepancies are found.

The CrushIR is packed in a wooden shipping box. Remove screws from the box to take off the cover of the shipping box. Remove the 4 packing bolts located at the corners of the CrushIR base plate. Lift the CrushIR and put it into place where it will be used to make pellets.

CAUTION: THE CrushIR IS HEAVY - 55 LB., 25 KG. OBTAIN HELP TO LIFT AND MOVE THE CrushIR DIGITAL HYDRAULIC PRESS

Packing List

CrushIR Manual
PN 350-181110-02
Quantity 1



CrushIR
PN 181-1XXX
Quantity 1

Press Arm
PN 181-0028
Quantity 1

3/16” Allen Hex Wrench
PN 410-0058
Quantity 1

Power Supply with Plugs
PN 076-1000
Quantity 1

Installation

Using the 3/16” Allen wrench, fully loosen the hydraulic fluid retaining screw located at the right, upper side of the CrushIR.

NOTE: THE CrushIR WILL NOT FUNCTION UNLESS THIS SCREW IS LOOSENED. WARNING - ALWAYS CLOSE THE FLUID RETAINING SCREW TO TRANSPORT OR TILT THE CrushIR.

Install the hydraulic press arm onto the CrushIR by pushing it over the bar and then rotating it clockwise into its locked position. Then install the country specific plug into the power supply. Install the power supply connector into the rear of the CrushIR digital hydraulic press. The digital display will read 00.0 when the power supply is installed and no force is applied. **The force reading on the CrushIR digital display is shown in US ton units.**

Using your hydraulic press

Place your pellet press into the CrushIR adjusting the die stop as needed to provide a comfortable amount of clearance. Position the pellet press so that it’s top and bottom are centered relative to the die stop and the hydraulic ram. Close the protective shield. Turn the pressure lock/release knob fully clockwise to close. Apply force to the pellet press by pumping the press arm up and down. Continue applying force to the pellet press until you reach its maximum rating. **In the case of the PIKE Evacuable Pellet Press, the maximum load is 10 US tons.**

WARNING - Never exceed the maximum force rating of the pellet press.

Allow the force to stay at the maximum value for about 1 minute. Then release the force by turning the pressure lock/release knob counterclockwise. Open the protective shield and remove the pellet press to extract the pellet.

NOTE: KBR POWDER IS SOFT AND COMPRESSIBLE. WHEN MAXIMUM FORCE IS APPLIED TO THE POWDER IT IS NORMAL FOR THE DIGITAL READING TO DROP INITIALLY BEFORE IT SETTLES AND REACHES A STEADY-STATE READING.

Precautions

Maximum Force

The CrushIR can deliver up to 15 tons of force. Do not exceed the maximum force rating of the pellet press. For example, the PIKE Evacuable Pellet Press has a maximum force rating of 10 tons. Carefully review the user manual for your pellet press to find its maximum force rating. Exceeding the maximum force rating will result in damage to the pellet press.

The fluid retaining screw must be released before using the CrushIR (see page 5). The fluid retaining screw must be secured (closed) if you transport the CrushIR or if you need to tilt it or lay on its side. Failure to follow these procedures will result in non-operation and/or leaking of fluid.

Safety

Always close the transparent protective shield before applying force to the pellet press. Failure to follow this procedure could result in physical injury to the operator. Protection provided by the equipment may be impaired if the equipment is used with accessories not provided or recommended by the manufacture, or is used in a manner not specified by the manufacturer.

Periodically inspect the external power supply interconnect cord, transparent protective shield, and other parts for damage. If any damage is observed, do not use the equipment and contact PIKE Technologies for replacement parts.

Do not position the equipment in a space where it is difficult to disconnect the power cord at the rear of the equipment.

Environmental Ratings

Installation Category II	(Transient Over-voltage)
Pollution Degree 2	(Temporary conductivity caused by condensation)
Altitude Limit:	2,000 meters
Usage:	Indoor
Ambient Temperature:	40 °C max
Humidity:	80 % RH non-condensing

Cleaning Procedures

Clean the CrushIR Hydraulic Press using a cloth dampened with water.
Clean the Pellet Press and any residual KBr powder using water. Dry thoroughly after cleaning.

Decontamination not required.

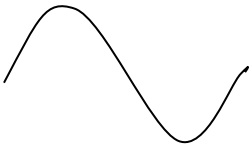
Equipment Voltage Ratings

External Power Supply:	100-240 VAC, 50/60 Hz, 0.6 Amps max
CrushIR Hydraulic Press:	9 VDC, 15 Watts max

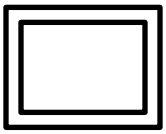
Power Supply Symbol Definitions

DC Direct Current

AC Alternating Current

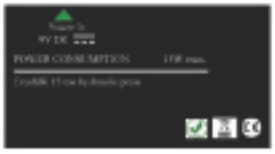


Equipment protected throughout by Double or Reinforced Insulation



Special Handling Requirements for KBr Powder

Read and follow the MSDS sheet recommendations for the KBr Powder prior to use. Observe all safety precautions and procedures while handling the KBr powder and finished pressed pellets. Follow MSDS recommended clean-up, spill procedures for the KBr Powder.

Label	Description	Location
	CE marking indicates the accessory complies with the essential requirements of the relevant European health, safety and environmental protection legislations.	This symbol is located on the backside of the hydraulic press accessory.
	The crossed out wheeled bin is a clear reminder that the product must not be disposed with household waste. It is the responsibility of the buyer to discard the product in accordance with federal, regional, and local environmental regulations.	This symbol is located on the backside of the hydraulic press accessory.
	The RoHS symbol indicates this product is free from RoHS prohibited elements and compounds (Pb, Cd, Hg, Hex-Cr, PBB, and PBDE).	This symbol is located on the backside of the hydraulic press accessory.
	This label indicates power consumption information.	This symbol is located on the backside of the hydraulic press accessory.

Replacement Parts and Options

The following parts and options may be ordered for the CrushIR accessory:

Part Number	Description
076-1000	DC Power Supply
181-0028	Press Handle
410-0058	3/16” Allen Wrench

Other PIKE products available for work with the Hydraulic Press

160-8010	KBr Powder 100g
161-1900	13mm Die Kit
161-5050	Agate Mortar and Pestle, 50mm
181-2000	PIKE Heated platens
076-1210	Digital Temperature Control Module (required for Heated Platens)
162-5300	Magnetic Pellet Holder
162-5410	Sample Card – For 13mm Pellets (10)

6125 Cottonwood Drive · Madison, WI 53719-5120 · (608) 274-2721 (TEL) · (608) 274-0103 (FAX)
info@piketech.com · www.piketech.com